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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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24112	7590	02/16/2006	EXAMINER	
COATS & BENNETT, PLLC P O BOX 5 RALEIGH, NC 27602			STEIN, JULIE E	
			ART UNIT	PAPER NUMBER
			2688	

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/747,752	Applicant(s) CHENG ET AL.	
	Examiner Julie E. Stein, Esq.	Art Unit 2688	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 and 52-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19, 21-31, 33, 35-39 and 52-67 is/are rejected.
- 7) ☐ Claim(s) 18, 20, 32 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figures 1 and 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The Examiner notes that in the Applicant's remarks, it is argued that the base station 14 is an "illustrative non-limiting example" that may be "programmed to implement various embodiments of the present invention." See page 17 of Applicant's remarks. However, on pages 5 to 6, paragraph 14, of Applicant's originally filed specification, it clearly states numerous times when describing the functioning of the base station 14, that, for example, communications can be targeted or broadcast, "as understood by those of skill in the art." Therefore, the objection to the drawings is maintained.

Specification

3. The disclosure is objected to because of the following informalities: In the Brief Description of the Drawings, Figures 1 and 8 should indicate that they show known versions of a communications network and a base station respectively.

Appropriate correction is required. See reasons above.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 14-17, 28-31, 35-39 and 64-67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 35-39 and 64-67 are rejected because the scope of the claims is indefinite. Applicant appears to claim multiple inventions in these claims. The inventions seem to include, a *computer readable medium* having a computer readable program embodied therein and related in some way to a wireless communication mobile terminal having a transmitter, and *the computer readable program* comprising computer readable program code, which appears to act on the mobile terminal and specifically on its transmitter. The recitation of multiple yet distinct inventions renders the scope of claims vague and indefinite.

7. In claims 14 and 28, the term "explicit indication" is vague and indefinite as it is unclear how one would explicitly indicate the presence of an enhanced channel report.

8. In claims 15 and 29, the term "implicit indication" is vague and indefinite as it is unclear how one would implicitly indicate the presence of an enhanced channel report.

9. In claims 16-17 and 30-31, it is unclear what the "different" spreading factor or pilot pattern is referring to as there is no initial spreading factor or pilot pattern recited.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claims 35-39 and 64-67 are rejected under 35 U.S.C. 101 as claiming multiple classes of statutory subject matter, including a computer readable medium and a computer readable program comprising computer readable program code (embodied on a computer readable medium) that appears to act on a mobile terminal. Under 35 U.S.C. 101 a single statutory class of subject matter must be claimed, therefore, claims 35-39 and 64-67 must be amended in order to claim a single class of statutory subject matter.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

13. Claims 1, 3-4, 7-10, 13, 21, 23-25, 35-37, 52-53, 55-56, 58-59, 61-62, 64, and 66 are rejected under 35 U.S.C. 102(a) as being anticipated by EP 1 304 900 A2 to NEC Corp. (EP).

EP discloses all the steps and elements of independent claims 1, 21, and 35, including a method, wireless communications mobile terminal, and a computer readable medium comprising a computer readable program embodied therein for a wireless

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communication mobile terminal, of reporting channel information in a wireless communication system, comprising: a mobile terminal normally providing a basic channel report (paragraphs 46-52, for, example, the third embodiment, or any of the embodiments other than the sixth embodiment), said basic channel report at least partially characterizing a downlink channel (Id.); said mobile terminal receiving at least one common feedback criterion broadcast to a plurality of mobile terminals (paragraph 46 or 61); said mobile terminal determining if said mobile terminal satisfies a condition (paragraphs 61 to 69) said mobile terminal selectively providing an enhanced channel report regarding said downlink channel based on said determining (paragraphs 61-69); and wherein said enhanced channel report provides a more detailed view of said downlink channel than said basic channel report (Id., the sixth embodiment includes channel quality reports from mobile stations that meet a required threshold value (equal to a reception quality value) thus providing more detailed information regarding channel quality).

The rejections of 1, 21, and 35 are hereby incorporated. EP discloses all the steps and elements of independent claims 52, 58, and 64, including a method, a base station, and a computer readable medium comprising a computer readable program embodied therein for a wireless communication base station, of controlling channel information reporting in a wireless communication system, comprising: a base station (paragraphs 46-52, for, example, the third embodiment, or any of the embodiments other than the sixth embodiment) receiving a plurality of basic channel reports transmitted from a plurality of mobile terminals (Id.), said basic channel reports at least

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partially characterizing one or more downlink channels from said base station (Id.); determining, by said base station, at least one common feed back criterion (paragraph 46 or 61); said at least one common feedback criterion helping to define a condition whose satisfaction controls which plurality of said plurality of mobile terminals subsequently transmit an enhanced channel report regarding one or more of said downlink channels to said base station (paragraphs 61-69); broadcast transmitting said at least one common feedback criterion from said base station to said plurality of mobile terminals (Id.)); and wherein said enhanced channel report provides a more detailed view of said downlink channel than said basic channel report (Id., the sixth embodiment includes channel quality reports from mobile stations that meet a required threshold value (equal to a reception quality value) thus providing more detailed information regarding channel quality).

EP also discloses all the steps and elements of dependent claim 3, including wherein said at least one common feedback criterion comprises at least one threshold. See paragraph 61.

EP also discloses all the steps and elements of dependent claim 4, including wherein said at least one common feedback criterion comprises a channel quality indicator threshold. Id.

EP also discloses all the steps and elements of dependent claims 7, 23, and 36, including wherein said basic channel report comprises a channel quality indicator. See paragraphs 46-52.

EP also discloses all the steps and elements of dependent claims 8 and 24, including wherein normally providing a basic channel report comprises normally providing a basic channel report on a periodic basis. Id.

EP also discloses all the steps of dependent claim 9, including wherein said mobile terminal selectively providing an enhanced channel report based on said determining comprises said mobile terminal selectively providing, on a periodic basis, either said basic channel report or said enhanced channel report based on said determining. See paragraph 66.

EP also discloses all the steps and elements of dependent claims 10, 25, and 37, including wherein said basic channel report comprises information related to a first set of one or more channel parameters of said downlink channel, and wherein said enhanced channel report comprises further information on said first set of channel parameters. See paragraphs 46-52 and 61-69.

EP also discloses all the steps of dependent claim 13, including wherein said basic channel report comprises a channel quality indicator; and wherein said mobile terminal selectively providing an enhanced channel report based on said determining comprises said mobile terminal selectively providing either said basic channel report or said enhanced channel report based on said determining. See paragraphs 46-52 and 61-69.

EP also discloses all the steps and elements of dependent claims 53 and 59, including wherein determining at least one common feedback criterion comprises

determining at least one common feedback criterion based on at least a desired amount of enhanced channel reports. See paragraphs 64 to 65.

EP also discloses all the steps and elements of dependent claims 55, 61, and 66, including wherein determining at least one common feedback criterion based on a desired amount of enhanced channel reports comprises determining at least one common feed back criterion based on said desired amount of enhanced channel reports and at least one reported channel quality indicator. See paragraphs 64 to 65 and 61.

EP also discloses all the steps and elements of dependent claims 56 and 62, including wherein determining at least one common feedback criterion based on said desired amount of enhanced channel reports and at least one reported channel quality indicator comprises determining at least one common feedback criterion based on said desired amount of enhanced channel reports and a plurality of reported channel quality indicators. See paragraphs 64 to 65 and 46-52.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 14-15, 19, 28-29, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP.

In light of claims 14-15 and 28-29 being rejected under 35 U.S.C. 112, 2nd paragraph, the Examiner is interpreting the claim limitations of “providing explicit and implicit indication” to be met, in essence, by any form of communication between the mobile terminal and the base station because, in both cases, the base station is going to receive and interpret the enhanced channel report and it is unclear in view of the claimed steps how a mobile terminal would in fact indicate to a base station “explicitly” or “implicitly” that an enhanced channel report was being provided.

Therefore, EP teaches all the steps and elements of dependent claims 14-15 and 28-29, including providing an explicit or implicit indication of the presence of said enhanced channel report when said enhanced channel report is provided. See the use of HS-DPCDCH and UL-DPCCH in Figure 24 and the corresponding description in paragraph 69.

EP teaches all the steps and elements of claims 19 and 33, except wherein providing a basic channel report comprises providing a basic channel report over a first logical channel; and wherein selectively providing an enhanced channel report regarding said downlink channel comprises selectively providing an enhanced channel

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report over at least a second logical channel. However, one of ordinary skill in the art at the time the invention was made would have understood that if the basic channel report was sent on a first logical channel and then a threshold value P was determined (see paragraph 64) and sent to the mobile stations (see paragraphs 64 and 61) then the mobile stations would send the enhanced channel report on a second logical channel as the enhanced channel report would occur at a later point in time.

17. Claims 2, 5-6, 11-12, 22, 26-27, 38-39, 54, 60, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP in view of WO 00/70897 (WO).

EP teaches all the steps/elements of claims 2 and 22, except wherein providing an enhanced channel report comprises providing an enhanced channel report that is a superset of said basic channel report. However, WO teaches event-based reporting by a mobile terminal based on a specific triggering measurement event or other information sent from a control node. See 10, lines 3 to 17. Such specific qualitative and/or quantitative measured parameters may be, for example, signal strength, signal power, interference level, signal-to-interference ratio and so on. See page 12, lines 12 to 16. Therefore, one of ordinary skill in the art at the time the invention was made would have understood that the enhanced channel report (triggered by a threshold value or event) would have had various configurations, including adding additional information regarding different control/condition parameters as taught by WO because this would give the base station/radio node additional information to use in determining whether to perform a given operation. See page 6, lines 5 to 12.

The rejection of claims 2 and 22 are hereby incorporated. EP in view of WO teaches all the steps and elements of claim 5, including wherein said at least one common feedback criterion comprises a throughput level threshold. See WO page 12, lines 12 to 16, traffic volume.

The rejections of claim 2, 5, and 22 are hereby incorporated. EP in view of WO teaches all the steps and elements of claim 6, including wherein said at least one common feedback criterion comprises at least one range. See WO page 14, lines 12 to 26.

The rejections of claim 2, 5-6, and 22 are hereby incorporated. EP in view of WO teaches all the steps and elements of claims 11-12, 26-27, and 38-39, including wherein said basic channel report comprises information related to a first set of one or more channel parameters of said downlink channel, and wherein said enhanced channel report comprises information related to a second set (or a first set of channel parameters and information related to a second set) of one or more channel parameters of said downlink channel different from said first set of channel parameters. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use various configurations of the enhanced channel report (triggered by a threshold value or event) in order to give the base station/radio node various information to use in determining whether to perform a given operation. See WO, page 6, lines 5 to 12.

The rejections of claim 2, 5-6, 11-12, 22, 26-27, and 38-39 are hereby incorporated. EP in view of WO teaches all the steps and elements of claims 54, 60, and 65, including wherein determining at least one common feedback criterion based on

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a desired amount of enhanced channel reports comprises determining at least one common feedback criterion based on said desired amount of enhanced channel reports (EP, paragraphs 64 to 65) and a data throughput rate (WO page 12, lines 12 to 16, traffic volume).

18. Claims 16-17, and 30-31 rejected under 35 U.S.C. 103(a) as being unpatentable over EP as applied to claims 1, 15, 21, and 29 above, and further in view of U.S. Patent Application Publication No. 2003/0123396 to Seo et al.

EP teaches all the steps and elements of claims 16 and 30, except wherein providing an implicit indication of the presence of said enhanced channel report comprises employing a different spreading factor to indicate the presence of said enhanced channel report. However, Seo teaches in Figure 9 one way of using a spreading factor to indicate the presence of specific information related to CQI information. See Figure 9 and paragraphs 116-119. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the spreading factor and method taught by Seo to indicate the presence of the enhanced channel report because the method of Seo allows for adjustment of the transmission of CQI based on a threshold measurement. See paragraph 116.

EP teaches all the steps and elements of claims 17 and 31, except wherein providing an implicit indication of the presence of said enhanced channel report comprises selectively employing a different pilot pattern to indicate the presence of said enhanced channel report. However, Seo teaches in Figure 9 that pilot information is multiplexed to construct a DPCCH. See paragraph 118 and Figure 9. Therefore, it

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would have been obvious to one of ordinary skill in the art at the time the invention was made to use a pilot pattern determined by the method taught by Seo (multiplexed with TPC, TFCI, and FBI) (paragraph 118) to indicate the presence of the enhanced channel report because the method of Seo allows for adjustment of the transmission of CQI based on a threshold measurement. See paragraph 116.

19. Claims 57, 63, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP as applied to claims 53, 59, and 64 above, and further in view of U.S. Patent Application Publication 2005/0277422 to Baker et al.

EP teaches all the steps and elements of claims 57, 63, and 67, except an amount of data queued at said base station for transmission to a plurality of said plurality of mobile terminals. But, Baker teaches that data for each user queues at a base station and that a scheduler, such as a "proportional fair scheduler" takes into consideration the queue length when scheduling. See paragraphs 52 and 61.

Therefore, one of ordinary skill in the art at the time the invention was made would have understood that to determine the at least one common feedback criterion both a desired amount of enhanced channel reports (EP paragraphs 64 to 65) and queue length (or amount of data queued) at the base station would be used because, as taught by Baker, a consideration to take into account when scheduling is queue length. See Baker, paragraph 61.

Allowable Subject Matter

20. Claims 18, 20, 32, and 34 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

21. Applicant's arguments with respect to claims 1-39 and 52-67 have been considered but are moot in view of the new ground(s) of rejection.

22. While the Examiner has issued this Office Action as a Non-Final, some of the rejections remain the same and thus the following response addresses Applicant's arguments regarding these rejections.

23. As to the rejections of the claims over EP, Applicant argues that only a single channel report is disclosed. The Examiner respectfully disagrees. As the rejection above indicates, any of the embodiments may be cited as a basic channel report and the Examiner now points to the third embodiment. The sixth embodiment is being cited as the enhanced channel report. As to whether the reference contemplates whether one type of report is transmitted or two, it clearly indicates that multiple reports are transmitted as reports are transmitted periodically and in the sixth embodiment the reports are adjusted based on the value of P and N as discussed in paragraph 64. The Examiner also respectfully submits that the independent claims do not currently recite a time limitation or that the reports be sent one after the other.

24. As to the Applicant's arguments regarding claim 10, the Examiner has indicated in the above rejection that the basic channel report is the third embodiment, which

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includes CQI information and a feedback indicator, while the enhanced channel report is the sixth embodiment, which further includes a threshold value that limits the mobile terminals reporting to the base station and thus would provide a more detailed report based on the threshold value provided by the base station.

25. As to the Applicant's arguments regarding the WO reference, WO does in fact broadcast to a plurality of mobile terminals, see page 10, lines 4 to 17. In addition, WO is being cited for the teaching of event-based reporting by a mobile terminal based on a specific triggering measurement event or other information sent from a control node. The Examiner respectfully submits that one of ordinary skill in the art at the time the invention was made would have understood that the enhanced channel report (triggered by a threshold value or event) would have had various configurations, including adding additional information regarding different control/condition parameters as taught by WO because this would give the base station/radio node additional information to use in determining whether to perform a given operation.

Conclusion

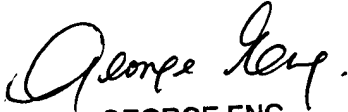
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie E. Stein, Esq. whose telephone number is (571) 272-7897. The examiner can normally be reached on M-F (8:30 am-5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JES


GEORGE ENG
SUPERVISORY PATENT EXAMINER